

IN THE CLAIMS:

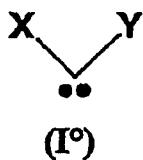
Please cancel claim 60, and amend claims 29, 32, 35, 38-48, 51 and 53-59, as shown below in the detailed listing of all claims which are, or were, in this application:

Claims 1-27 (Cancelled)

28. (Previously presented) A method for preparing polyorganosiloxanes (POSS) by ring-opening and/or redistribution polymerization of POSS, in the presence of a catalyst (C), wherein said catalyst (C) comprises at least one carbene.

29. (Currently amended) The method of claim 28, wherein the carbene of catalyst (C) comprises two nonbonding electrons, which are in the singlet or triplet, ~~preferably singlet~~, form.

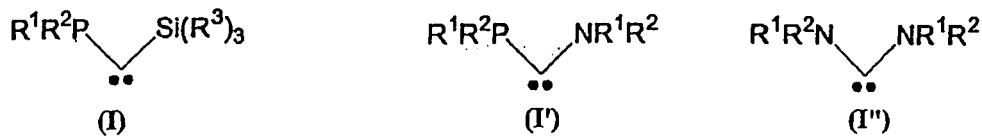
30. (Previously presented) The method of claim 28, wherein the carbene of catalyst (C) has a general structure represented by formula (I^o):



wherein:

- X and Y are independently chosen from the group comprising S, P, Si, N and O;
- X and Y are optionally substituted;
- X and Y can be connected via at least one optionally substituted five-, six- or seven-membered hydrocarbon-based ring; or a five-, six- or seven-membered heterocycle comprising one or more hetero atoms chosen from the group comprising: S, P, Si, N and O, and optionally substituted.

31. (Previously presented) The method of claim 30, wherein the carbene of catalyst (C) has a general structure represented by formula (I), (I') or (I''):

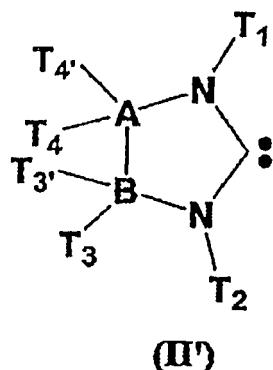
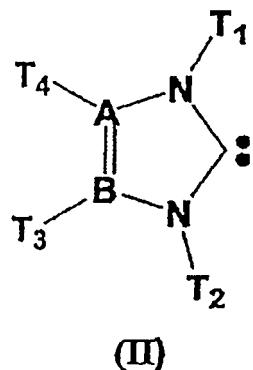


wherein:

- R¹, R² and R³, which may be identical or different, independent represent an alkyl group; an optionally substituted cycloalkyl group; an optionally substituted aryl group; or

- the groups R^1 and R^2 can together form an optionally substituted five- or six-membered hydrocarbon-based ring; or a five- or six-membered heterocycle comprising one or more hetero groups chosen from the group comprising: S, P, Si, N and O, and optionally substituted.

32. (Currently amended) The method of claim 30, wherein the carbene of catalyst (C) corresponds to formula (II) or (II'):



wherein;

- A and B independently represent C or N, with the proviso that

- in formula (II), when A represents N, then T4 is not present and when B represents N, then T3 is not present;

• in formula (II'), when A represents N, then T4 or T4' is not present, and when B represents N, then T3 or T3' is not present;

-T3, T3', T4 and T4' independently represent a hydrogen atom; an alkyl group; a cycloalkyl group optionally substituted with alkyl or alkoxy; an aryl group optionally substituted with alkyl or alkoxy; an alkenyl group, and alkynyl group; or an arylalkyl group in which the aryl part is optionally substituted with alkyl or alkoxy; or

- T3 and T4 can form, together and with A and B when the latter each represent a carbon atom, an aryl, it being understood that, in this case, T3' and T4' are not present;

- T1 and T2 independently represent an alkyl group; an alkyl group optionally substituted with alkyl; an alkyl group that is perfluorinated or optionally substituted with a perfluoroalkyl group; a cycloalkyl group optionally substituted with alkyl or alkoxy; an aryl group optionally substituted with alkyl or alkoxy; an alkenyl group; an alkynyl group; or an arylalkyl group in which the aryl part is optionally substituted with alkyl or alkoxy; or

T1 and T2 independently represent a monovalent radical of formula (V) below:

-v1-v2 (v)

wherein:

• V1 is a saturated or unsaturated, hydrocarbon-based divalent group, preferably an optionally substituted linear or branched C_1-C_{10} alkylene,

• V2 is a monovalent group chosen from the group of the following substituents:

◆ alkoxy, $-OR^a$ with R^a corresponding to hydrogen, alkyl or aryl;

◆ silyl, $-Si(OR^b)_x(R^c)_{3-x}$ with R^b corresponding to hydrogen, alkyl, silyl or siloxanyl, R^c corresponding to alkyl or aryl, and x being an integer between 0 and 3;

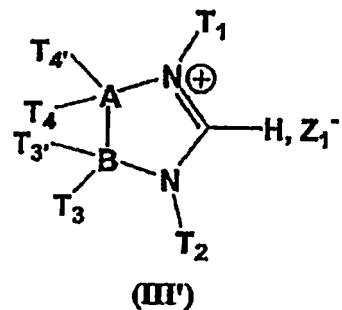
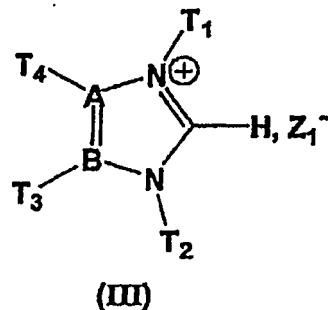
◆ amine, preferably $-N(R^a)_2$ with R^a corresponding to hydrogen, alkyl or aryl; or

- the substituents T1, T2, T3, T3', T4 and T4' can form, in pairs, when they are located on two adjacent vertices in formulae (II) and (II'), a saturated or unsaturated hydrocarbon-based chain.

33. (Previously presented) The method of claim 28, wherein the carbene is prepared separately, and/or is generated in situ from at least one precursor.

34. (Previously presented) The method of claim 33, wherein the precursor is a salt corresponding to the carbene, which is reacted with at least one base, so as to generate the carbene in situ.

35. (Currently amended) The method of claim 34, wherein the corresponding salt is at least one corresponding heterocyclic salt of general formula (III) or (III'):



wherein:

- A and B independently represent C or N, with the proviso that:
 - in formula (III), when A represents N, then T₄ is not present, and when B represents N, then T₃ is not present;

AMENDMENT

• in formula (III'), when A represents N, then T4 or T4' is not present, and when B represents N, then T3 or T3' is not present;

- T3, T3', T4 and T4' independently represent a hydrogen atom; an alkyl group; a cycloalkyl group optionally substituted with alkyl or alkoxy; an aryl group optionally substituted with alkyl or alkoxy; an alkenyl group; an alkynyl group; or an arylalkyl group in which the aryl part is optionally substituted with alkyl or alkoxy; or

- T3 and T4 can form, together and with A and B when the latter each represent a carbon atom, an aryl, it being understood that, in this case, T3' and T4' are not present;

- T1 and T2 independently represent an alkyl group; an alkyl group optionally substituted with alkyl; an alkyl group that is perfluorinated or optionally substituted with a perfluoroalkyl group; a cycloalkyl group optionally substituted with alkyl or alkoxy; an aryl group optionally substituted with alkyl or alkoxy; an alkenyl group; an alkynyl group; or an arylalkyl group in which the aryl part is optionally substituted with alkyl or alkoxy; or

T1 and T2 independently represent a monovalent radical of formula (V) below:

-V1-V2 (V)

wherein:

• V1 is a saturated or unsaturated, hydrocarbon-based divalent group, ~~preferably an optionally substituted linear or branched C₁-C₁₀-alkylene,~~

• V2 is a monovalent group chosen from the group of the following substituents:

◆ alkoxy, -OR^a with R^a corresponding to hydrogen, alkyl or aryl;

◆ silyl, -Si(OR^b)_x(R^c)_{3-x} with R^b corresponding to hydrogen, alkyl, silyl or siloxanyl, R^c corresponding to alkyl or aryl, and x being an integer between 0 and 3;

◆ amine, ~~preferably -N(R^a)₂ with R^a corresponding to hydrogen, alkyl or aryl;~~ or

- the substituents T1, T2, T3, T3', T4 and T4' can form, in pairs, when they are located on two adjacent vertices in formulae (III) and (III'), a saturated or unsaturated hydrocarbon-based chain;

- Z1 independently represents an anion derived from a Brönsted acid (protic acid) ~~preferably chosen from the group comprising~~ consisting of:

- carboxylic acids of formula $G_o\text{-COOH}$ in which G_o represents an alkyl, ~~and advantageously a $C_1\text{-}C_{12}$ alkyl~~; an aryl, ~~and advantageously a $C_6\text{-}C_{18}$ aryl~~ optionally substituted with one or more $C_1\text{-}C_6$ alkyls;
- sulfonic acids of formula $G_o\text{-SO}_3\text{H}$ in which G_o is as defined above;
- phosphoric acids of formula $G_o\text{-PO}_3\text{H}$ in which G_o is as defined above;
- the following inorganic acids: HF, HCl, HBr, HI, H_2SO_4 , H_3PO_4 , HClO_4 and HBF_4 taken alone or in combination with one another;
- and mixtures thereof.

36. (Previously presented) The method of claim 28, wherein said method is carried out, by homogeneous catalysis, in a liquid reaction medium in which are at least partially solubilized said catalyst (C) and/or its precursor(s) and the initial POSSs, and optionally at least one base.

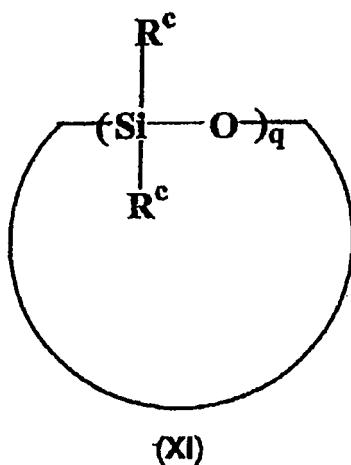
37. (Previously presented) The method of claim 28, wherein the solubility of said catalyst (C) and/or its precursor(s) is controlled by means of at least one solubilization helper and/or by

using at least one carbene substituted with at least one appropriate group.

38. (Currently amended) The method of claim 28, wherein said method is performed at a temperature T ($^{\circ}$ C) such that $T \leq 200$, preferably $100 \leq T \leq 150$, and even more preferably $T \leq 100$.

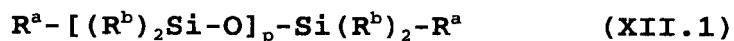
39. (Currently amended) The method of claim 28, wherein the concentration of catalyst (C), in mol per 100 g of initial POSSs, in a reaction medium is such that $[C] \leq 1$, preferably $10^{-5} \leq [C] \leq 10^{-1}$ and even more preferably $10^{-5} \leq [C] \leq 10^{-3}$.

40. (Currently amended) The method of claim 28, wherein the initial POSSs comprise cyclic POSSs (POScy), preferably chosen from those corresponding to general formula (XI) below:



wherein R^c represents hydrogen or an alkyl or aryl radical and
 $3 \leq q \leq 12$.

41. (Currently amended) The method of claim 28, wherein the initial POSS are linear and are preferably selected from those of general formula (XII.1):



wherein:

- R^a independently represent a hydroxyl, an alkyl or an aryl, optionally comprising one or more hetero atoms and optionally substituted with halogens,
- R^b independently represent an alkyl or an aryl, optionally comprising one or more hetero atoms and optionally substituted with halogens,
- and $p \geq 2$.

42. (Currently amended) The method of claim 41, wherein a final POS/POS_{cy} ratio in the reaction medium is greater than 85/15, preferably greater than or equal to 90/10, and even more preferably greater than or equal to 95/5.

43. (Currently amended) The method of claim 31, wherein the following are used:

- POSS substituted with catalytic functions able to generate carbenes, and ~~preferably catalytic functions~~ derived from products of formula (I°), (I) or (I');

- and/or silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and ~~preferably a catalytic function~~ derived from a product of formula (I°), (I) or (I'),

R* is an alkyl,

a= 1 to 3.

44. (Currently amended) The method of claim 32, wherein the following are used:

- POSS substituted with catalytic functions able to generate carbenes, and ~~preferably catalytic functions~~ derived from products of formula (II) or (II');

- and/or silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and
preferably a catalytic function derived from a product of formula
(II) or **(II')**,

R^* is an alkyl,

$a = 1$ to 3 .

45. (Currently amended) The method of claim 35, wherein the following are used:

- POSS substituted with catalytic functions able to generate carbenes, and preferably catalytic functions derived from products of formula **(III)** or **(III')**;
- and/or silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and
preferably a catalytic function derived from a product of formula
(III) or **(III')**,

R^* is an alkyl,

$a = 1$ to 3 .

46. (Currently amended) A composition that can be used in particular for the preparation of polyorganosiloxanes (POSS) by polymerization and/or redistribution of POSS, comprising

linear or nonlinear POSS and/or cyclic POSS (POScy);

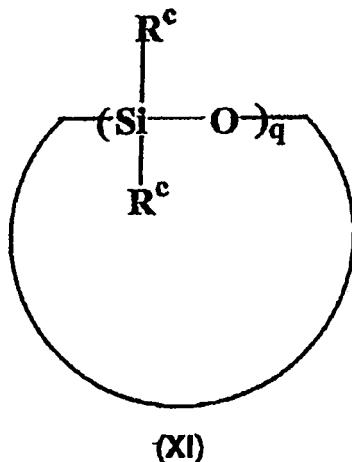
a catalyst (C) comprising at least one carbene ~~in which the two nonbonding electrons are preferably in the singlet form; with the exclusion of any catalyst formed by at least one metal/carbene complex, in particular Pt/carbene;~~

optionally, at least one solvent;

and, optionally, linear POSS, ~~for example polydialkyl (e.g. methyl) siloxanes MD_pM with $p=0$ to 20, preferably 0 to 10, and more preferably $p=0$. namely, disiloxanes, for example those belonging to the group comprising hexamethyldisiloxane (M2), vinylated M2 and hydrogenated M2.~~

47. (Currently amended) The composition of claim 46, wherein the carbene of catalyst (C) comprises two nonbonding electrons, which are in the singlet or triplet, ~~preferably singlet,~~ form.

48. (Currently amended) The composition of claim 46, wherein the initial POSSs comprise cyclic POSSs (POScy), ~~preferably~~ chosen from those corresponding to general formula (XI) below:



wherein R^c represents hydrogen or an alkyl or aryl radical and
 $3 \leq q \leq 12$.

49. (Previously presented) The composition of claim 46, wherein catalyst (C) is generated in situ from at least one precursor chosen from the group comprising at least one salt corresponding to the carbene, capable of reacting with at least one base, so as to generate the carbene in situ.

50. (Previously presented) The composition of claim 46, further comprising at least one solubilization helper and/or the carbene is substituted with at least one solubilizing group.

51. (Currently amended) The composition of claim 46, wherein the concentration of catalyst (C), in mol per 100 g of initial POSS, in a reaction medium is such that $[C] \leq 1$, ~~preferably $10^{-5} \leq [C] \leq 10^{-4}$~~ and ~~even more preferably $10^{-5} \leq [C] \leq 10^{-3}$~~ .

52. (Previously presented) A silicone composition, comprising:

at least one POS obtained by polymerization and/or redistribution of POSS;

at least one residue of catalyst (C) comprising at least one carbene.

53. (Currently amended) A silicone composition comprising at least one POS obtained by ring opening and then polymerization and/or redistribution of POSS, and in particular of POScy, having a final POS/POScy ratio of greater than 85/15, ~~preferably greater than or equal to 90/10, and even more preferably greater than or equal to 95/5.~~

54. (Currently amended) POSSs substituted with catalytic functions able to generate carbenes, ~~preferably~~ derived from products of formula (I^o), (I) or (I') as defined in claim 31.

55. (Currently amended) POSSs substituted with catalytic functions able to generate carbenes, ~~preferably~~ derived from products of formula (II) or (II') as defined in claim 32.

56. (Currently amended) POSSs substituted with catalytic functions able to generate carbenes, ~~preferably~~ derived from products of formula (III) or (III') as defined in claim 35.

57. (Currently amended) Silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and ~~preferably a catalytic function~~ derived from a product of formula (I^o) or (I), as defined in claim 31,

R* is an alkyl,

a = 1 to 3.

58. (Currently amended) Silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and
~~preferably a catalytic function derived from a product of formula~~
(II) or **(II')** as defined in claim 32,

R^* is an alkyl,

$a = 1$ to 3.

59. (Currently amended) Silanes of formula:



wherein:

R^c is a catalytic function able to generate a carbene, and
~~preferably a catalytic function derived from a product of formula~~
(III) or **(III')** as defined in claim 35,

R^* is an alkyl,

$a = 1$ to 3.

60. (Canceled)